and multilaterating cellular telephone signals or other signals or distress signals or the like. The protability of such a system, along with the capability to integrate such signals into the overall system, allows for rapid deployment of the system to specific locations while maintaining a central tracking ability and the integration of multiple tracking sources.

[0100] Unmanned Aerial Vehicles (UAVs) may be employed to track the location of a target. UAVs may be provided with receiving antennas to receive signals from aircraft, ships, vessels in distress, individuals, or other fixed or moving targets. The location of each UAV may be determined using an on-board Global Positioning System (GPS), inertial navigation, or multilateration of signals from the UAV itself by ground stations—or a combination of such techniques.

[0101] Once the location of the UAVs (or relative location of a UAV relative to other sensors and/or UAVs) is known, it is possible to determine the location of a target using multilateration Time Difference of Arrival (TDOA) techniques to determine the location of the target. Using this information, the UAV may be directed toward the target, in some embodiments.

[0102] While the preferred embodiment and various alternative embodiments of the invention have been disclosed and described in detail herein, it may be apparent to those skilled in the art that various changes in form and detail may be made therein without departing from the spirit and scope thereof.

1. A method of tracking a target, comprising the steps of:
receiving, at a plurality of sensors at a plurality of locations, a plurality of signals from the target on a wide frequency band of one or more of aircraft, vehicle, vessel, and fixed target emitted signals;
time-stamping the plurality of signals with time stamps indicating when the signals arrive at the plurality of locations; and
determining position of the target using time difference of arrival of the plurality of signals at the plurality of locations,
wherein one or more of the sensors is installed at one or more of a fixed location, buoy-mounted, ship mounted, aircraft mounted or unmanned aerial vehicle mounted.

2. The method of claim **1**, wherein the target is one or more of an aircraft, vehicle, vessel, or fixed target.

3. The method of claim **1**, further comprising the steps of:
receiving, from the target, electronic intelligence data to categorize emitter type of the target; and
correlating the target track with electronic intelligence data to correlate emitter type to the tracked target.

4. The method of claim **3**, wherein the emitter comprises an emitter located on one or more of aircraft, vehicles, marine vessels, and a surface to air missile (SAM) battery.

5. The method of claim **4**, wherein the emitter comprises one or more of JTIDS, IFF, DME, TACAN, VAT, SSR, Mode S, ADS-B, weather radar, jamming radar, communications, electromagnetic pulses, and pulse emitters.

6. The method of claim L further comprising the steps of:
tracking the target using Automatic Dependent Surveillance (ADS); and
validating an ADS track using the target position determined using time difference of arrival of the plurality of signals at the plurality of locations.

7. The method of claim **3**, further comprising the step of:
correlating of the emitter location with information including one or more of noise levels, noise spectra, vibration, audio, video, primary radar, passive radar, secondary radar and infra red imagery.

8. The method of claim **7**, further comprising the step of:
categorizing target type from one or more of noise levels, noise spectra, vibration, audio, video, primary radar, passive radar, secondary radar and infra red imagery.

9. The method of claim **1**, wherein the step of time-stamping the plurality of signals with time stamps indicating when the signals arrive at the plurality of locations further comprises the steps of:
receiving a time clock value from an individual sensor, and
time stamping a signal received at the sensor with a time clock value from the sensor.

10. The method of claim **1**, wherein the step of time-stamping the plurality of signals with time stamps indicating when the signals arrive at the plurality of locations further comprises the steps of:
receiving a time clock value from a central server; and
time stamping a signal received at the sensor with a time clock value from the central server.

11. The method of claim **1**, further comprising the step of:
transmitting one or more of time stamp, timing, tracking and identification data from the plurality of sensors, to a central processor over one or more of analog line, digital line, internet, Ethernet, wireless, fiber, and microwave link,
wherein said step of determining position of the target using time difference of arrival of the plurality of signals at the plurality of locations comprises calculating position of the target at the central processor using data from the plurality of sensors.

12. The method of claim **11**, wherein the sensors and the central processor are one or more of a fixed system, deployable, and portable.

13. A system for tracking a target, comprising:
means for receiving, at a plurality of sensors at a plurality of locations, a plurality of signals from the target on a wide frequency band of one or more of aircraft, vehicle, vessel, and fixed target emitted signals;
means for time-stamping the plurality of signals with time stamps indicating when the signals arrive at the plurality of locations; and
means for determining position of the target using time difference of arrival of the plurality of signals at the plurality of locations,
wherein one or more of sensors is installed at one or more of a fixed location, buoy-mounted, ship mounted, aircraft mounted or unmanned aerial vehicle mounted.

14. The system of claim **13**, wherein the target is one or more of an aircraft, vehicle, vessel, or fixed target.

15. The system of claim **13**, further comprising:
means for receiving, from the target, electronic intelligence data to categorize emitter type of the target; and
means for correlating the target track with electronic intelligence data to correlate emitter type to the tracked target.

16. The system of claim **15**, wherein the emitter comprises an emitter located on one or more of aircraft, vehicles, marine vessels, and a surface to air missile (SAM) battery.

17. The system of claim **16**, wherein the emitter comprises one or more of JTIDS, IFF, DME, TACAN, VAT, SSR, Mode S, ADS-B, weather radar, jamming radar, communications, electromagnetic pulses, and pulse emitters.